

[0050] ŷ acknowledgment of the success/failure in delivering an MM (ACK/NACK_delivery)

[0051] ŷ triggering the automatic MM-download (pull-push).

[0052] The advantage of this implementation is that SMS already exists, and the use of this service therefore facilitates the market introduction and acceptance of MMS. SMS makes available a reliable service for the above-mentioned notifications. When SMS is used, there is no need for additional signaling for transmitting notifications. SMS offers a bandwidth-friendly service for such simple notifications, this service also being simultaneously usable for ongoing connections or sessions in the GSM, GPRS, and UMTS system. SMS is also available in second generation cellular phones (e.g. GSM).

[0053] Therefore, a user may use essential features of the MMS service without necessarily requiring a (an expensive) third generation cellular phone (e.g. UMTS).

[0054] According to a further, preferred refinement, the SMS short message is provided with a data portion, which has at least one of the following elements for establishing the message of the first message surface: identification of the type of message of the first message service and/or content of the message of the first message service.

[0055] According to another preferred refinement, the length of the message of the first message service is specified as a further element for establishing the message of the first message service.

[0056] A further, preferred refinement provides for at least a portion of the elements being accommodated in a user-data header of the SMS short message.

[0057] A further, preferred refinement provides for the user-data header being constructed in WCMP format, in which the message of the first message service is embedded.

[0058] According to a further, preferred refinement, the SMS short message is provided with a header, which has, in the data portion, an identifier for indicating the presence of a message of the first message service.

BRIEF DESCRIPTION OF THE DRAWING

[0059] Exemplary embodiments of the present invention are shown in the drawing and are explained in detail in the following description.

[0060] The figures show:

[0061] FIG. 1 the structure of the SMS short message of the first type A in GSM, in a first specific embodiment of the method according to the present invention;

[0062] FIG. 2 the structure of an SMS short message of the first type A in GSM, in a second specific embodiment of the method according to the present invention;

[0063] FIG. 3 the structure of an SMS short message of the second type B in GSM, in a third specific embodiment of the method according to the present invention;

[0064] FIG. 4 the principal structure of a first type A of SMS in GSM; and

[0065] FIG. 5 the principal structure of a second type B of SMS short message in GSM.

DETAILED DESCRIPTION

[0066] In the figures, identical reference symbols denote identical or functionally equivalent elements.

[0067] FIG. 1 shows the structure of an SMS short message of the first type A in GSM, in a first specific embodiment of the method according to the present invention.

[0068] In the first specific embodiment according to FIG. 1, the first message surface is the MMS message service, the second message surface is the SMS message service, and the dedicated, first group of messages of the MMS message service is:

[0069] ŷ dedicated MMS user messages (e.g. short text messages)

[0070] ŷ notification of the presence of a message on the MMS server (notification)

[0071] ŷ logging on to an MMS session (session establishment)

[0072] ŷ receipt for this log-on (receipt)

[0073] ŷ explicit request for a notification from the MMS relay (explicit notification query)

[0074] ŷ confirmation of the reception of sent MM's in the relay (ACK/NACK_submission_1)

[0075] ŷ confirmation of the success in sending MM's to other users (ACK/NACK_submission_2)

[0076] ŷ acknowledgment of the success/failure in delivering an MM (ACK/NACK_delivery)

[0077] ŷ triggering the automatic MM-download (pull-push).

[0078] In particular, FIG. 1 shows user-data header SM-DH of a type-A SMS short message for establishing a session with the MMS service.

[0079] In header SM-H, the presence of a user-data header SM-DH is indicated by flag TP-UDHI=1 in accordance with the standards GSM 03.40 V7.1.0 (11/1998) Technical Realization of the Short Message Service (SMS); Point-to-Point (PP) and 3G 23.040 V3.2.0 (10/1999) Technical Realization of the Short Message Service (SMS); and Point-to-Point (PP).

[0080] The formatting of user-data header SM-DH also conforms to the standards. It begins with user-data header length UHL. This is followed by identification UHI of the first header element which, for example, is the MMS session establishment header (hex. 22) in this case. This is then followed by length UHEL of the first header element which, in this case, is therefore the necessary length for the MMS session establishment header information. Last come the MMS session establishment header data fields UHD, which are, in this case, the user ID and the user profile ID. Using the user ID, the user authenticates himself to his service provider, and using the profile ID, he selects the service/user profile desired for this MMS session.

[0081] This may be succeeded by further user data header elements, e.g. for SMS concatenation, and specifically, beginning with identification UHI' of the second header element and so on, the further user data header elements being constructed in a manner analogous to the first header element.

[0082] For the case in which only the MMS session establishment header (hex. 22 in the example) is present, the above-mentioned standard stipulates that the necessary SMS header/SMS user data header fields be encoded as follows: SMS header: TP-UDHI=1 (user data header is present),

SMS User Data Header:

[0083] ŷ UDHL=user data header length UHL

[0084] ŷ IEI=UHI=22 (user data header identification=hex. 22 for MMS session establishment)

[0085] ŷ IEIDL=length of this user data header element UHEL